

REMARKS

In view of the following remarks, favorable reconsideration of this application and early allowance thereof is respectfully requested.

Claims 1-29 have been examined and are currently pending in this application. Claims 1, 25, 28 and 29 are the independent claims.

Applicants' undersigned attorney, Aaron Haleva, would like to thank Examiner Burch for the courtesies extended during the telephonic interview conducted on November 7, 2005 regarding the new matter objections raised in the Office Action mailed July 28, 2005. An Interview Summary follows, after which the objections and rejections contained in the Office Action are addressed.

I. Interview Summary

On November 7, 2005, Applicants' attorney, Aaron Haleva, conducted a telephonic interview with Examiner Burch to discuss the Examiner's objections to the drawing changes and to the amendment of ¶18 of the application specification to include the recitation "the axle-load ratio can be applied in linear or affine relationships." As set forth on pages 2-4 of the Office Action, the Examiner objected to the addition of Figs. 1a-1c and 9 and the associated description, contending that these drawing figures and associated description added new matter to the application in violation of 35 U.S.C. §132(a). During the interview, Applicants' position traversing the Examiner's objections was presented and is described below.

Regarding the Examiner's objection to Fig. 1b, Applicants' attorney noted that the application specification as filed, particularly paragraph [0032] of the published application, clearly describes J2 as the step where the brake-application energy reference value (kappa) is determined. This, in connection with the fact that claim 22 as originally filed recites that the step

of “determining the brake-application energy reference value is based on vehicle dynamics data and the mass of [the] vehicle combination,” the inclusion of Fig. 1b showing “vehicle dynamics data” and “vehicle combination mass” as inputs to step J2 draws explicit and direct support from the as-filed application. Although the Examiner correctly noted that step J2 is the step where the brake-application energy reference value (κ) is determined, dependent claim 22 makes clear that calculation of κ is “based on vehicle dynamics data and the mass of [the] vehicle combination”, precisely as shown in Fig. 1b.

Similarly, with respect to the Examiner’s objection to Fig. 1c, Applicants’ attorney pointed out to the Examiner that paragraph [0032] of the published application and claim 24, as filed, the latter of which explicitly states “wherein said step of determining said brake-application energy reference value includes filtering said brake-application energy reference value,” directly support the inclusion of Fig. 1c.

Regarding the Examiner’s objection to the inclusion of Fig. 9 in the application, Applicants’ attorney pointed out to the Examiner that the elements depicted therein (*i.e.*, an EBS (including an EBS control unit 10), a means for determining actual deceleration 20, a brake pedal 30 (including a signal transmitter for desired brake values 40), brake actuators 50, 60, the wheel speed sensors 70, 80 and axle load sensors 90, 100)) draw support directly from the claims as originally filed and inherently from the application as a whole – especially, given that such elements are conventional and are well-known to those of ordinary skill in the art.

With respect to the Examiner’s objection to the inclusion of the recitation “the axle-load ratio can be applied in linear or in affine relationships” in paragraph [0018] of the application, Applicants’ attorney noted that paragraph [0008] (axle-load ratio changes “linearly”) as well as original claim 20 (“axle-load ratio being applied in at least one of linear and affine

equations") and 27 ("axle-load of said tractor vehicle being applied in at least one of linear and affine equations") of the as-filed application explicitly and directly support this recitation.

Regarding the Examiner's objection to use of the term "affine equations" in claim 20 as lacking support in the application specification, Applicants' attorney reiterated that the specification (paragraph [0018]) was amended to include this term in the Response filed on May 9, 2005, and as noted immediately above, this term was explicitly recited in original claims 20 and 27 in connection with the axle-load.

The Examiner did not dispute any of Applicants' arguments presented during the interview.

Applicants' attorney further offered to set forth in detail, in this formal response to the Office Action, the support in the application as filed for the drawing figures and disclosure objected to by the Examiner. The Examiner indicated that she would give this full consideration.

Regarding the objection to Fig. 9, in particular, the Examiner stated that, even if no new matter was actually added (especially pertinent here inasmuch as Fig. 9 is labeled "prior art"), it is "PTO policy" not to allow the addition of *any* drawings post filing. In response, Applicants' attorney pointed out that there is no codified law, regulation or even MPEP section prohibiting such an addition; Examiner Burch stated that she would further consider the appropriateness of the objection to Fig. 9 (and consult with her SPE) on this point.

II. New Matter Objections to Drawings and Specification

In the Office Action (at pages 2-4), the Examiner raised new matter objections to the previously-filed amendments to the drawings as well as to ¶18 of the application specification. For the reasons set forth in detail below and presented during the telephonic interview, Applicants respectfully submit that the drawing figures, as amended, are in

compliance with 37 CFR 1.83(a) and 1.84(p)(5), and notice to this effect is respectfully requested. For ease of illustration, and as promised in the telephonic interview, the following chart presents in summary format the bases in the original application as filed for all of the drawing amendments as well as the amendments to ¶18 of the specification. Detailed discussion follows.

Fig. 1b	claim 22 as originally filed recites the step of “determining the brake application energy reference value is based on vehicle dynamics data and the mass of [the] vehicle combination.”
Fig. 1c	claim 24 as originally filed explicitly states “wherein said step of determining said brake-application energy reference value includes filtering said brake-application energy reference value.”
Fig. 9	The elements shown in Fig. 9 are conventional and well known to those skilled in the art, in addition to having been recited in claims 17, 23, 24 and 28 as originally filed.
¶18 of specification	¶18 of the application specification was specifically amended to include the term “affine equations” in the response filed on May 9, 2005. This term was explicitly recited in original claims 20 and 27 in connection with the axle-load, thus directly and explicitly supporting the amendment of ¶ 18 of the application specification.

Support for Fig. 1b

In the Office Action the Examiner stated that “[t]he originally filed specification fails to provide proper antecedent basis for the following: the inclusion of figure 1(b) which includes vehicle dynamics and combination mass being inputs into J2.” Although the Examiner noted that claim 22 recites the step of “determining the brake application energy reference value is based on vehicle dynamics data and the mass of [the] vehicle combination,” she stated that J2

is the step “wherein ... KAPPA [is determined] from comparison of Z-set and Z-actual and not the step of determining the brake application energy reference value as recited.” Applicants respectfully traverse the Examiner’s objection. The two statements are not mutually exclusive. Step J2 does, in fact, involve calculating kappa by a comparison of Z-set and Z-actual. That is correct. Moreover, the inputs to this comparison can be, for example, based on vehicle dynamics data and the mass of [the] vehicle combination, as recited in claim 22. After all, Z-set and Z-actual are *deceleration* values – and deceleration is a function of vehicle dynamics and mass. Claim 1 affirmatively recites step J2 of Fig. 1a, and dependent claim 22 recites the inputs to that step as shown in Fig. 1b.

Support for Fig. 1c

As explained during the telephonic interview, claim 24 as originally filed explicitly states “wherein said step of determining said brake-application energy reference value includes filtering said brake-application energy reference value.” This directly supports the inclusion of Fig. 1c.

Support for Fig. 9

Applicants originally added Fig. 9 to the drawings, a simplified schematic diagram of a tractor vehicle (and partial view of a trailer vehicle) of a conventional tractor-trailer vehicle combination, to address the Examiner’s concerns as stated in the first Office Action (mailed on February 8, 2005). There, at ¶1 (page 2) the Examiner objected to the drawings as not showing (i) the axle load sensors (or the means for determining axle load) as recited in claim 17, (ii) the vehicle dynamics data (including engine power and transmission ratio) as recited in claim 23, (iii) the means for enabling the filtering of the brake application energy reference value as recited in claim 24, (iv) the means for measuring actual deceleration as recited in claim 28, (v)

the electronic braking system recited in claim 1, and (vi) the elements recited in claim 5. The Examiner required that the foregoing features either be shown in the drawing figures or deleted from the claims. To address these concerns Applicants added Fig. 9.

Support for the addition of new Fig. 9 resides in at least the claims noted by the Examiner in the drawing objection. The sole basis for the original objection was that the drawings did not show these elements. Thus, *ipso facto*, these elements were recited in the claims as filed and are thus part of the original disclosure. Accordingly, no new matter could possibly have been introduced by simply illustrating these terms in Fig. 9, as requested by the Examiner. Moreover, Fig. 9 is labeled as “prior art.” The elements shown in Fig. 9 are conventional and well known to those skilled in the art, in addition to having been recited in claims 17, 23, 24 and 28. In establishing a disclosure, Applicants may rely not only on the specification and drawings as filed but also on the original claims. MPEP § 608.01(l). It is thus difficult to understand a new matter objection relative to this material, and Applicants urge that such objection be withdrawn.

Given the bases contained in the original application as filed for each of the objected to drawing amendments as set forth in detail above, Applicants see no need to amend the drawings via corrected drawing sheets, and respectfully request that the Examiner remove the pending new matter objections to Figs. 1b, 1c and 9. In view of the foregoing, Applicants respectfully submit that the drawings as previously amended are all in compliance with 37 CFR 1.83(a). Notice to this effect is respectfully requested.

Support for Amendment to ¶18 of the Specification

On page 4 of the Office Action, the Examiner objected to claim 20 on the grounds that the term “affine equations” lacked support in the specification. Applicants are somewhat

baffled by this objection inasmuch as the specification (paragraph [0018]) was specifically amended to include this term in the Response filed on May 9, 2005. Thus, the specification as amended precisely does support claim 20. As noted above, this term was explicitly recited in original claims 20 and 27 in connection with the axle-load, thus directly and explicitly supporting the amendment of ¶ 18 of the specification. In establishing a disclosure, Applicants may rely not only on the specification and drawing as filed but also on the original claims. MPEP § 608.01(l).

In view of the foregoing, Applicants respectfully submit that the application specification as amended provides sufficient antecedent basis for the claimed subject matter. Notice to this effect is earnestly solicited.

III. Rejection of Claims 1-29 Under 35 U.S.C. §103(a)

Claims 1-29 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over EP-0697314 (“EP ‘314”) in view of EP-0445575 (“EP ‘575”). Based solely on a reading of the Background of the Invention section of the application, the Examiner states that EP ‘314 teaches all the elements recited in the independent claims except for “determining an axle load ratio for said tractor vehicle,” which the Examiner states is taught by EP ‘575. For the reasons provided below, Applicants respectfully traverse the Examiner’s claim rejections under 35 U.S.C. § 103(a).

Applicants first note that the function of describing EP ‘314 and EP ‘575 in the Background of the Invention section was to highlight their deficiencies and the motivations for the solutions offered by the present invention as claimed (see paragraphs [0003]-[0006] and [0008] incorporated herein by reference). These cited references do not provide the elements of the claimed invention nor do they teach or suggest them.

In particular, as discussed in greater detail hereinafter, EP ‘314 does not teach or even suggest a method and/or system for: (1) providing sets of performance characteristics representing the dependencies of the brake-application energy level for the tractor and trailer on at least one of the brake-application energy reference value and the axle-load ratio, (2) calculating a set brake-application energy value for the tractor based on (i) the set deceleration value, (ii) a value that is a function of the brake-application energy reference value, and (iii) the brake-application energy level for the tractor, in accordance with the sets of performance characteristics, and (3) calculating a set brake-application energy value for the trailer based on (i) the set deceleration value, (ii) the value that is a function of the brake-application energy reference value, and (iii) the brake-application energy level for the trailer, in accordance with the sets of performance characteristics, as affirmatively recited in the independent claims of the present application.

Furthermore, while EP ‘575 generally describes determination of an axle-load ratio for a trailer vehicle, it does not overcome the severe deficiencies of EP ‘314 as it also does not teach or even suggest the foregoing elements affirmatively recited in the independent claims. Thus, even if one of ordinary skill in the art were motivated to make the suggested combination (a motivation which Applicants’ submit is not rationally presented), such combination would not yield the present invention as claimed in the independent claims as is required for a proper §103(a) rejection.

Turning now to independent claim 1 in particular, the method steps recited in claim include, *inter alia*, (1) providing sets of performance characteristics in the electronic braking system representing the dependencies of the brake-application energy level for the tractor vehicle on the brake-application energy level for the trailer vehicle on at least one of the

brake-application energy reference value and the axle-load ratio, (2) calculating a set brake-application energy value for the tractor vehicle based on the set deceleration value, a value that is a function of the brake-application energy reference value, and the brake-application energy level for the tractor vehicle, in accordance with the sets of performance characteristics, and (3) calculating a set brake-application energy value for the trailer vehicle based on the set deceleration value, said value that is a function of said brake-application energy reference value, and said brake-application energy level for said trailer vehicle, in accordance with the sets of performance characteristics.

The specification, in describing the method of EP ‘314, states:

an initial value of a reference factor is determined by means of a set of performance characteristics resident in the tractor vehicle electronics and of the measured instantaneous tractor vehicle condition. The initial value is located in a band within the normal range; the reference factor is defined as the ratio of total brake pressure of the tractor vehicle to set vehicle deceleration (this ratio being a function of tractor vehicle condition data containing at least one description of load condition); and the set of performance characteristics containing a band of reference factor values within the normal range. The total brake pressure of the tractor vehicle is adjusted to a value specified by the initial value of the reference factor, and the brake pressure of the trailer vehicle is adjusted to a value, within a predetermined resident braking band, that corresponds to the selected set vehicle deceleration of the trailer vehicle.

Specification at [0003].

Nothing at all is stated in this description (or in the cited reference) that teaches or suggests elements (1)-(3) of claim 1 as described above. Element (1) identified above includes providing performance characteristics *representing the dependencies of the brake-application energy level for the tractor vehicle and the brake-application energy level for the trailer vehicle on at least one of the brake-application energy reference value and the axle-load ratio.* In EP ‘314 the “performance characteristics” are simply stated as being an input to the reference factor calculation and thus “contain a range of values of the reference factor.” There is no teaching or

even suggestion of such characteristics representing dependencies of brake-application energy levels for the tractor and the trailer on at least one of the brake-application energy reference value and the axle-load ratio. For example, trailer brake-application energy levels are not even addressed in the “performance characteristics” of EP ‘314.

Element (2) of claim 1 identified above includes *calculating a set brake-application energy value for the tractor vehicle based on the set deceleration value, a value that is a function of the brake-application energy reference value, and the brake-application energy level for the tractor vehicle, in accordance with the sets of performance characteristics*. As discussed above, the “performance characteristics” of claim 1 are not those described in EP ‘314. Moreover, all that is calculated in EP ‘314 is the reference value, not a set brake-application energy value, not a value that is a function of the brake-application energy reference value, and not the brake-application energy level for the tractor vehicle.

Lastly, element (3) of claim 1 identified above includes *calculating a set brake-application energy value for the trailer vehicle based on said set deceleration value, said value that is a function of said brake-application energy reference value, and the brake-application energy level for the trailer vehicle, in accordance with said sets of performance characteristics*. Similar to the case of element (2), said “performance characteristics” of claim 1 are not those described in EP ‘314. Moreover, all that is calculated in EP ‘314 is the reference value, not a set brake-application energy value, not a value that is a function of the brake-application energy reference value, and not a brake-application energy level for the tractor vehicle.

EP ‘575, which generally describes determination of an axle-load ratio for a trailer vehicle, does not overcome the severe deficiencies of EP ‘314 as it also does not teach or even suggest the foregoing elements (1)-(3).

Applicants thus submit that none of elements (1)-(3) of claim 1 identified above are taught or suggested by EP '314 or EP '575, whether alone or in any combination. Accordingly, it is submitted that EP '314 or EP '575 cannot render claim 1 obvious. Notice to this effect is respectfully solicited.

As independent claims 25, 28 and 29 also recite, in one form or another, elements (1)-(3) discussed above, among other elements which distinguish over the prior art, it is submitted that claims 1, 25, 28 and 29 are patentably distinguishable over the cited prior art for at least the same reasons that claim 1 is so patentably distinguishable. Notice to this effect is also respectfully solicited.

For similar reasons, as well as for the additional features and steps recited therein, dependent claims 2-24 and 26-27 are also patentable over EP '314 or EP '575. Notice to this effect is additionally respectfully requested.

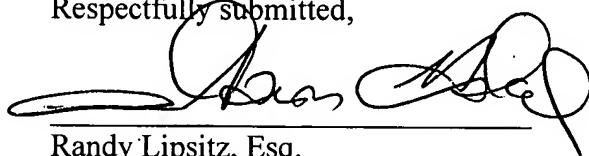
On the basis of the foregoing, Applicants respectfully submit that this application is in condition for immediate allowance, and notice to this effect is respectfully requested.

If any issues remain open, the Examiner is invited to contact Applicants' undersigned attorneys at the telephone number set forth below to try and resolve such issues informally and advance the prosecution of this case.

A check in the amount of \$450.00 covering the fee for the Petition for a Two

Month Extension of Time submitted herewith is enclosed. Please charge any fee deficiency and credit any overpayment to the undersigned attorneys' Deposit Account No. 50-0540.

Respectfully submitted,



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